



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/053,696	01/24/2002	Peter W. Merz	003780-061	7837

7590 01/26/2004

B. Jefferson Boggs, Jr.
BURNS, DOANE, SWECKER & MATHIS, L.L.P.
P.O. Box 1404
Alexandria, VA 22313-1404

EXAMINER

AFTERGUT, JEFF H

ART UNIT PAPER NUMBER

1733

DATE MAILED: 01/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/053,696

Applicant(s)

MERZ, PETER W.

Examiner

Jeff H. Aftergut

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.

- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 7, 9, 10, and 13-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Shields (the portion from the book entitled "Adhesives Handbook").

Shields expressed that in general "the application of adhesive to a painted surface is not recommended". The reference suggested that the developing bond would only be as strong as the bond of the paint to the substrate. moreover, migration of adhesive constituents into some types of paint could lead to early failure of the paint substrate interface. Improved performance was achieved by removal of the paint film by abrasion or solvent action followed by application of the adhesive to the exposed surface. The reference suggested that adhesive bonding was widely practiced on painted metal surfaces in the automobile industry. Additionally the reference suggested that abrasion was performed with an emery cloth on the surface prior to adhesive application.

Regarding claim 2, the reference to Shields suggested that paint removal would have been performed on metal surfaces. Regarding claim 3, note that the adhesive was applied directly upon the metal surface. Regarding claim 7, note that the reference suggested that the adhesive bonding would have been performed in the automobile industry. It should be noted that in the automobile industry, the adhesives employed were carcass adhesive materials. Regarding claims 9 and 10, the reference suggested that one would have mechanically treated the surface via

abrasion with an emery cloth. Regarding claims 13-15, the reference suggested that the adhesive bonding operation would have been performed on a vehicle (automobile) part.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4 and 7-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Shields.

The admitted prior art expressed that it was known per se to attach metal to another material wherein the surface of the metal was painted prior to attempting the bonding operation. The reference expressed that carcass adhesives were known for this bonding operation. The admitted prior art failed to teach that one skilled in the art would have removed the paint via a machining operation prior to the bonding of the layers together wherein the removed paint would not interfere with the adhesive bond.

Shields as discussed above in paragraph 2, expressed that it was commonplace to remove the paint from a painted metal surface prior to adhesive bonding as the paint would have been well recognized as interfering with the adhesive bond. Shields expressed that in general "the application of adhesive to a painted surface is not recommended". The reference suggested that the developing bond will only be as strong as the bond of the paint to the substrate. moreover, migration of adhesive constituents into some types of paint could lead to early failure of the paint substrate interface. Improved performance was achieved by removal of the paint film by abrasion

or solvent action followed by application of the adhesive to the exposed surface. The reference suggested that adhesive bonding was widely practiced on painted metal surfaces in the automobile industry. Additionally the reference suggested that abrasion was performed with an emery cloth on the surface prior to adhesive application. It would have been obvious to one of ordinary skill in the art at the time the invention was made to remove the paint via the operations of machining the surface as suggested by Shields in the operation of joining surfaces which have been painted as described by the admitted prior art.

Regarding claim 2, the reference to Shields suggested that paint removal would have been performed on metal surfaces. The admitted prior art expressed that the surfaces to be treated were metal surfaces. Regarding claim 3, note that the adhesive was applied directly upon the metal surface. Regarding claim 4, it should be noted that the processing suggested by Shields related to any painted surface whether pretreated with a cathodic dipping finishing operation or not and one skilled in the art would have understood that such would have been applicable to all metal surfaces which were painted. Regarding claim 7, note that the reference suggested that the adhesive bonding would have been performed in the automobile industry. It should be noted that in the automobile industry, the adhesives employed were carcase adhesive materials. Note that the admitted prior art suggested the use of carcase adhesives for joining the metal to other materials. Regarding claims 8 and 12, note that carcase adhesives were known to be structural adhesives as admitted by applicant (a structural adhesive is one which can absorb high strengths) and that because the claimed bonding operation was performed by the combination one skilled in the art would have expected to attain the same bond strengths. Regarding claims 9 and 10, the reference suggested that one would have mechanically treated the surface via abrasion with an

emery cloth. Regarding claim 11, machining via a milling operation to pretreat a surface prior to bonding is taken as conventional mechanical pretreatments within the scope of "abrasion or solvent" suggested by Shields for the removal of the paint. As such it would have been within the purview of the ordinary artisan to utilize conventional milling operations to pretreat the surface prior to the bonding operation. Regarding claims 13-15, the reference to Shields suggested that the adhesive bonding operation would have been performed on a vehicle (automobile) part. Such was known from the admitted prior art as well.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 4 further taken with Process Handbook on Surface Preparation For Adhesive Bonding.

While it is believed that Shields suggested that one skilled in the art at the time the invention was made would have cleaned the aluminum of the paint via a machining operation, the reference did not expressly state that cdf (cathodic dipping finishing) was not employed. however, it was known as evidenced by Process Handbook on Surface Preparation For Adhesive Bonding that when one bonded metals together such as aluminum, various pretreatments which did not involve a cathodic dipping finishing operation (anodic bath treatments) were known as expressed at page 6 for example and the use of "Super Clean Process" of Thiokol and Hercules which was a known alternative to Anodization as described on page 8. clearly, it would have been within the purview of the ordinary artisan to select a suitable metal for the processing and one skilled in the art at the time the invention was made would have readily understood that the bonding operation would have worked upon either the cdf treated metal or the non-cdf treated metal surfaces. I would have been obvious to one of ordinary skill in the art at the time the

Art Unit: 1733

invention was made to remove the paint from a non-cdf treated surface of metal prior to adhesive bonding as it was known as evidenced by Process Handbook on Surface Preparation For Adhesive Bonding that such non-cdf treated surfaces would have been adhesively bonded with abrasive pretreatments in the operation as presented in paragraph 4.

6. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 4 further taken with either one of Hoffman Sr. or Kretow et al.

The references as set forth above in paragraph 4 did not suggest that one skilled in the art would have applied a tape over the adhesive coating prior to the bonding where the tape was removed just prior to attachment of the metal components together. However, those skilled in the art of making an adhesive bond would have known to provide a release cover over the adhesive coating and in particular would have done so when the adhesive bond was not to take place immediately as such would have prevented premature bonding with materials which were not meant to be adhered as suggested by either one of Hoffman Sr. or Kretow et al. more specifically, applicant is referred to Kretow et al at column 6, lines 60-68 and Hoffman, Sr. at column 5, lines 30-45 for example. Clearly, in order to provide a means to prevent premature adhesive bonding, it would have been obvious to one of ordinary skill in the art at the time the invention was made to cover the adhesive with a release strip or tape in order to prevent bonding until it was desired as suggested by either one of Kretow et al or Hoffman, Sr. in the process of bonding portions of an automobile together with adhesive. It should be noted that both of Kretow and Hoffman are concerned with joining materials together in the manufacture of an automobile.

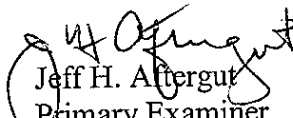
Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pokorny and Sparka suggested that one skilled in the art would have removed paint from a metal surface prior to adhesive bonding in the region where the paint was previously present in order to develop a strong adhesive bond.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff H. Aftergut whose telephone number is 571-272-1212. The examiner can normally be reached on Monday-Friday 7:15-345 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1212.


Jeff H. Aftergut
Primary Examiner
Art Unit 1733

JHA
January 20, 2004